

CLAIMS

- [1] A chip removing device in a band saw that removes, using a brush, chips adhered to a band saw blade that rotates while being wound around a driving wheel and a follower wheel rotatably supported by a saw blade housing, the chip removing device comprising:
- a pair of brush support bodies that pivotally support a brush shaft having a brush that can come into contact with both side surfaces of a blade tip of the band saw blade such that the brush shaft can rotate and drive;
 - a rotating and driving mechanism that simultaneously rotates and drives the pair of brush shafts pivotally supported by the pair of brush support bodies; and
 - a removing biasing unit that can bias the brush support bodies in a direction approaching the band saw blade and in a direction separating away from the band saw blade, wherein the brush support body and the brush shaft are provided such that they can rock in the direction approaching the band saw blade and in the direction separating away from the band saw blade, and the brush is sandwiched with substantially constant pressing force with respect to the band saw blade.
- [2] The chip removing device in the band saw according to claim 1, further comprising a wear detector that detects a reduction in diameter of the brush caused by wear as a variation of the brush

support body in a direction approaching the band saw blade.

[3] The chip removing device in the band saw according to claim 2, wherein

- 5 the wear detector comprises:
pushing levers extending from the pair of brush support bodies toward the band saw blade;
shafts to be detected that are engaged with the pushing levers and that can reciprocate in parallel to the brush shaft; and
10 a detecting biasing unit that always brings the to-be detected shafts into abutment against the pushing levers,
wherein the wear detector detects movement of one or both of the to-be detected shafts and detects wear of the brush.

- 15 [4] The chip removing device in the band saw according to claim 3, wherein

- a rotation direction on a side where the pair of brushes provided on the pair of the brush shafts come into contact with the band saw blade is inclined in a forward and downward direction with
20 respect to a running direction of the band saw blade, and
the brush is rotated from a blade root side toward a blade tip side of the band saw blade, thereby removing the chips from the band saw blade.

- 25 [5] The chip removing device in the band saw according to claim

4, wherein

the rotating and driving mechanism comprises:

a pair of rive bevel gears opposed to a shaft end of a main rotation drive shaft that is rotated and driven by a drive motor;

5 a pair of second rotation drive shafts that are rotated and driven in directions opposite from each other through a pair of follower bevel gears meshing with the pair of drive bevel gears, the pair of second rotation drive shafts intersecting with the main rotation drive shaft at right angles; and

10 a universal joint that connects the pair of second rotation drive shafts and the pair of brush shafts that are pivotally supported by the pair of brush support bodies such that the pair of second rotation drive shafts and the pair of brush shafts can rock in a direction approaching the band saw blade and in a direction separating away from the band
15 saw blade.

[6] The chip removing device in the band saw according to claim 5, wherein

the removing biasing unit comprises:

20 spring hooks that are respectively provided on the brush support bodies and a housing incorporating the main rotation drive shafts and the second rotation drive shaft on the side of the band saw blade, and at positions away from a turning center of the universal joint; and

25 tension springs that are resiliently provided between the spring

hook on the side of the housing and the spring hook on the side of the brush support body.